PHILIPS

Xitanium

LED driver

Datasheet

Xitanium non-isolated DALI dimmable & programmable iXt

Xitanium 100W 0.15-0.5A 300V iXt TD 230V

9290 039 76506

Xitanium non-isolated DALI dimmable & programmable iXt

Xitanium non-isolated DALI drivers stand on three pillars: quality of light, reliability and flexibility.By using Xitanium LED drivers in your luminaires, you can be sure to offer your customers high quality of light without visual flicker andstroboscopic effects. The reliability of your complete lighting system is enhanced as our Industry Xtreme drivers offer longer lifetime, highsurge specifications and a wide ambient temperature range.Finally, application-oriented operating windows offer the flexibility required to provide the stable lumen output and light quality levels thatare required in demanding industrial applications.

Features

- High efficiency
- Wide operating windows - output current can be adjusted via the Philips MultiOne software, SimpleSet (NFC)
- Reduced ripple current
- Industry Xtreme (iXt) drivers offer longer life time,higher surge specifications and a wide T-ambient range.

Benefits

- High quality of light
- High reliability
- Future-proof flexibility
- Fast and easy wireless programmingwith SimpleSet
- Flicker and noise free dimming due toamplitude modulation dimming (AM)

Application

- Offices
- Retail: supermarkets, shopping malls
- Indoor industry applications:warehouses, distribution centers, coldstorage, manufacturing

Logistical data

Specification item	Value
Product name	Xitanium 100W 0.15-0.5A 300V iXt TD 230V
Logistic code 12NC	9290 039 76506
Pieces per box	24
Weight	215 gram

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220…240	V_{ac}	Nominal range
Rated input voltage	230	V_{ac}	
Rated input frequency	50…60	Hz	Nominal range
Rated input current	0.46	A	@ rated output power @ minimum performance input voltage
Rated input power	104.6	W	@ rated output power @ rated input voltage
Power factor performance range	0.9 C		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	95.0	%	@ rated output power @ rated input voltage @ max. Uout
Rated input voltage DC	186…250	V_{dc}	Nominal range
Rated input current DC	0.42…0.58	A_{dc}	Nominal range
Input voltage AC	198…264	V_{ac}	Operational range
Input frequency AC	45…66	Hz	Operational range
Input voltage DC	168…275	V_{dc}	Operational range
Standby Power (W)	0.25	W	
Isolation input to output	No		

Electrical output data

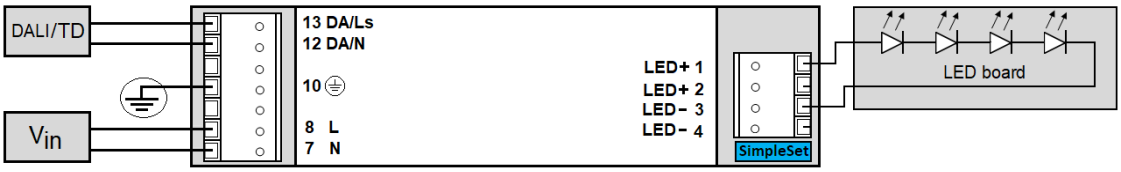
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	100…300	V_{dc}	
Output voltage max.	330	V	Maximum output voltage (rms)
Output current	150…500	mA	
Output current min programmable	150	mA	
Min output current	3.3	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P_{st}^{LM}	≤ 1.0		
Output SVM	≤ 0.3		
Output power	0.3…100.0	W	
Minimum performance output power	28	W	Power factor > 0.9 and THD < 20%

Control interfaces

Specification item	Value	Unit	Condition
Control method	Corridor Mode, DALI, TD		DALI Parts: 101, 102, 207, 251, 252, 253. See design-in guide at www.philips.com/oem for more controllability details.
Dimming range	1…100	%	lower than -25°C and higher than+50°C dimming to be set to 10%
Isolation controls input to output	Basic		acc. IEC61347-1

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Output wire strip length	8…9	mm	
Control wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Control wire strip length	8…9	mm	
Maximum cable length	2	m	Total length of wiring including LED module, one way

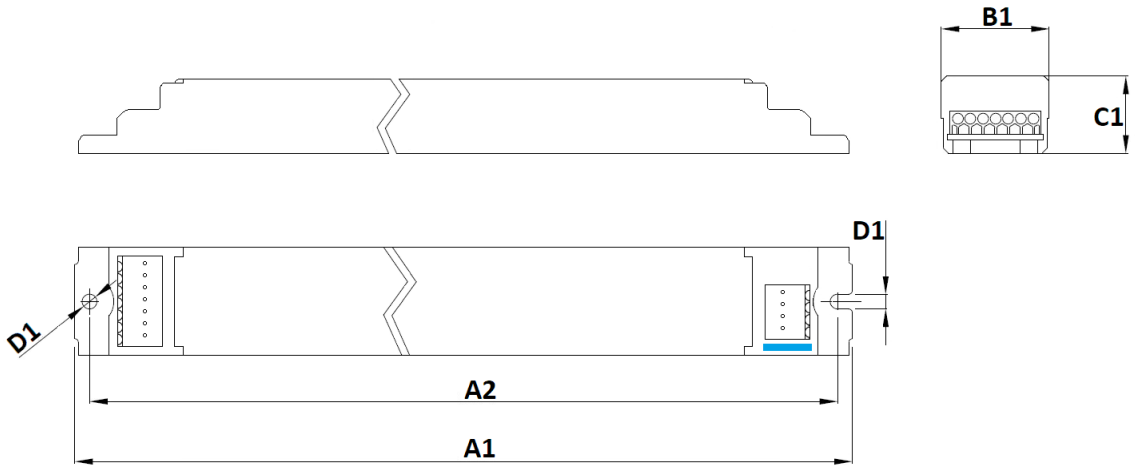


Isolation

Insulation per IEC61347-1	Input	Output+LEDset	DALI	Housing
Input	-	No	Basic	Basic
Output+LEDset	No	-	Basic	Basic
DALI	Basic	Basic	-	Basic
Housing	Basic	Basic	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	280	mm	
Mounting hole distance (A2)	270	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	215	gram	

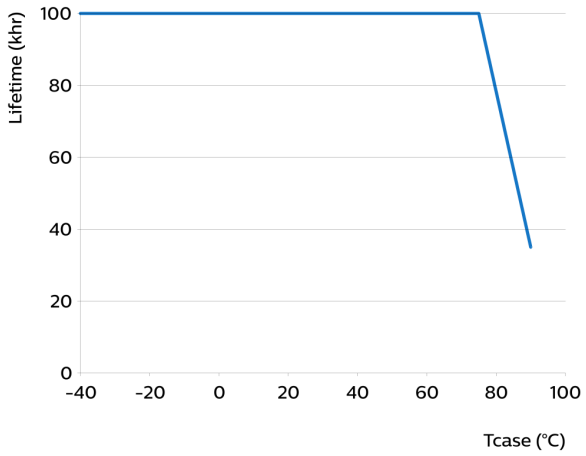


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40…+60	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded. Below -30°C DALI performance cannot be guaranteed.
Tcase-max	90	°C	lifetime 35khrs;
Tcase-life	75	°C	lifetime 100khrs; measured at T_c-point
Maximum housing temperature	110	°C	In case of a failure, inherent by design
Relative humidity	10…90	%	Non-condensing

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	35,000	hours	Measured temperature at Tcase-point is Tcase-max. Maximum failures = 10%.
Driver lifetime	100,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%.
Mains switching cycles	> 100,000	switches	See Design-in guide for detailed explanation



Maximum failures = 10%

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+85	°C	
Relative humidity	5...95	%	Non-condensing

Programmable features

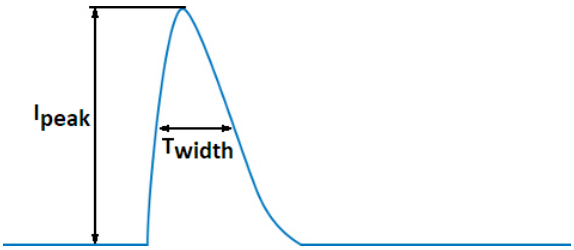
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Programmable, SimpleSet	150 mA	
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Touch & Dim (TD)	Yes	ON	
Corridor Mode	Yes	ON	Default: T1=55s, T2=12s, T3=30min
Min Dim Level (%)	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Current output decreased to 15%
OEM Write Protection (OWP)	Yes	OFF	
DALI 102	Yes		Programmable via SimpleSet
Luminaire Info (DALI part 251)	Yes		
Luminaire maintenance (DALI part 253)	Yes		

Non-programmable features

Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598
Output Overvoltage Detection	Yes		
Energy metering (DALI part 252)	Yes		
Diagnostics via Signify tool	Yes		

Inrush current

Specification item	Value	Unit	Condition
Inrush current	18.5	A	Input voltage 230V
Inrush peak width	40	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 34	pcs	Input voltage 230V



Please refer to the driver design in guide if you use other MCB-types.
If several mini circuit breakers are used directly side-by-side (without distance pieces) a correction factor of 80% has to be applied to the rated current

Driver touch current / protective conductor current / earth leakage current

Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

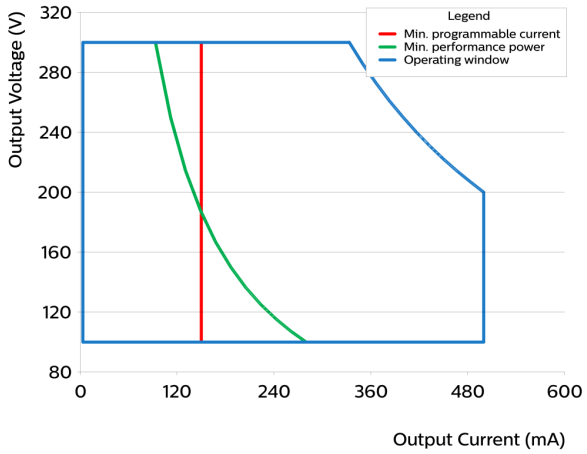
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	2	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	4	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

Specification item	Value
Approval marks and Certifications	CB / CCC / CE / DALI 2 / EAC / EL / ENEC / RCM / UA / UKCA
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

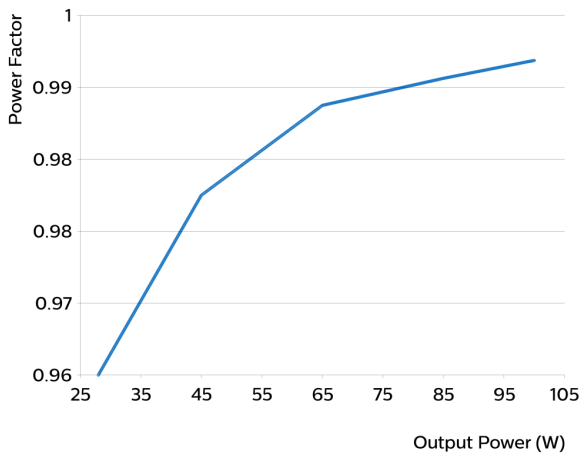
Graphs

Operating window

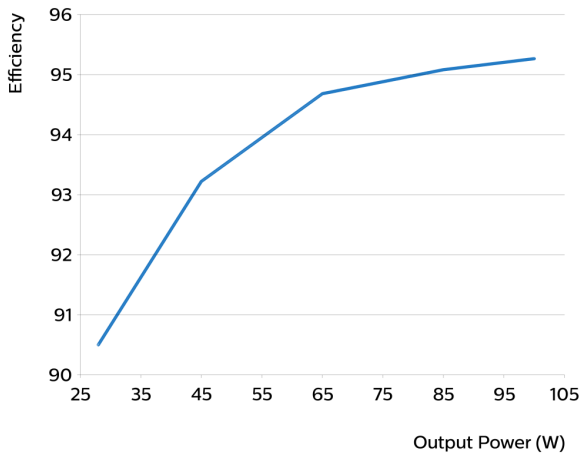


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 100W 0.15-0.5A 300V iXt TD 230V	150	100	300	45
Xitanium 100W 0.15-0.5A 300V iXt TD 230V	200	100	300	60
Xitanium 100W 0.15-0.5A 300V iXt TD 230V	250	100	300	75
Xitanium 100W 0.15-0.5A 300V iXt TD 230V	300	100	300	90
Xitanium 100W 0.15-0.5A 300V iXt TD 230V	350	100	285	100
Xitanium 100W 0.15-0.5A 300V iXt TD 230V	400	100	250	100
Xitanium 100W 0.15-0.5A 300V iXt TD 230V	450	100	222	100
Xitanium 100W 0.15-0.5A 300V iXt TD 230V	500	100	200	100

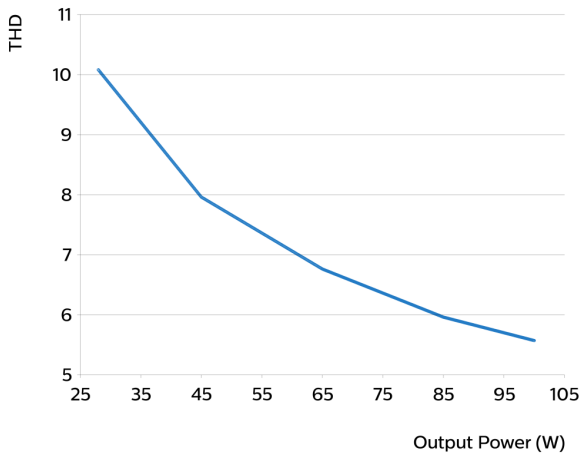
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

Caution: It is not safe to touch the PCB (tracks) around the relay when the driver is powered on.

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Date of release: December 5, 2024 v5

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